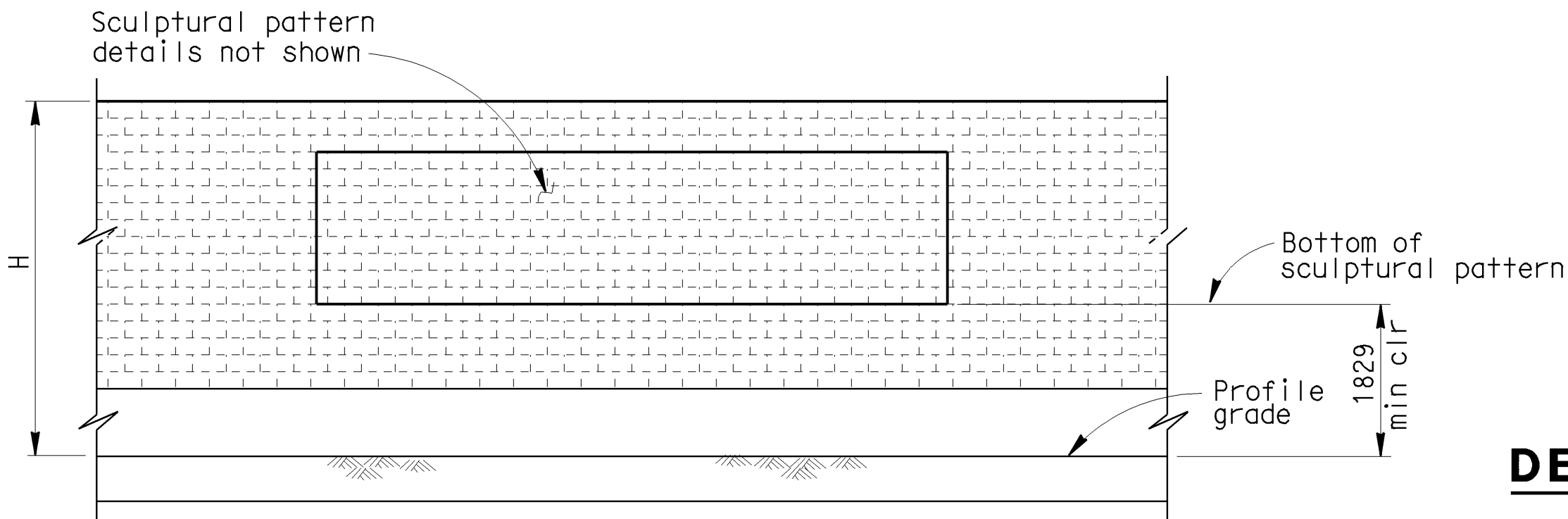
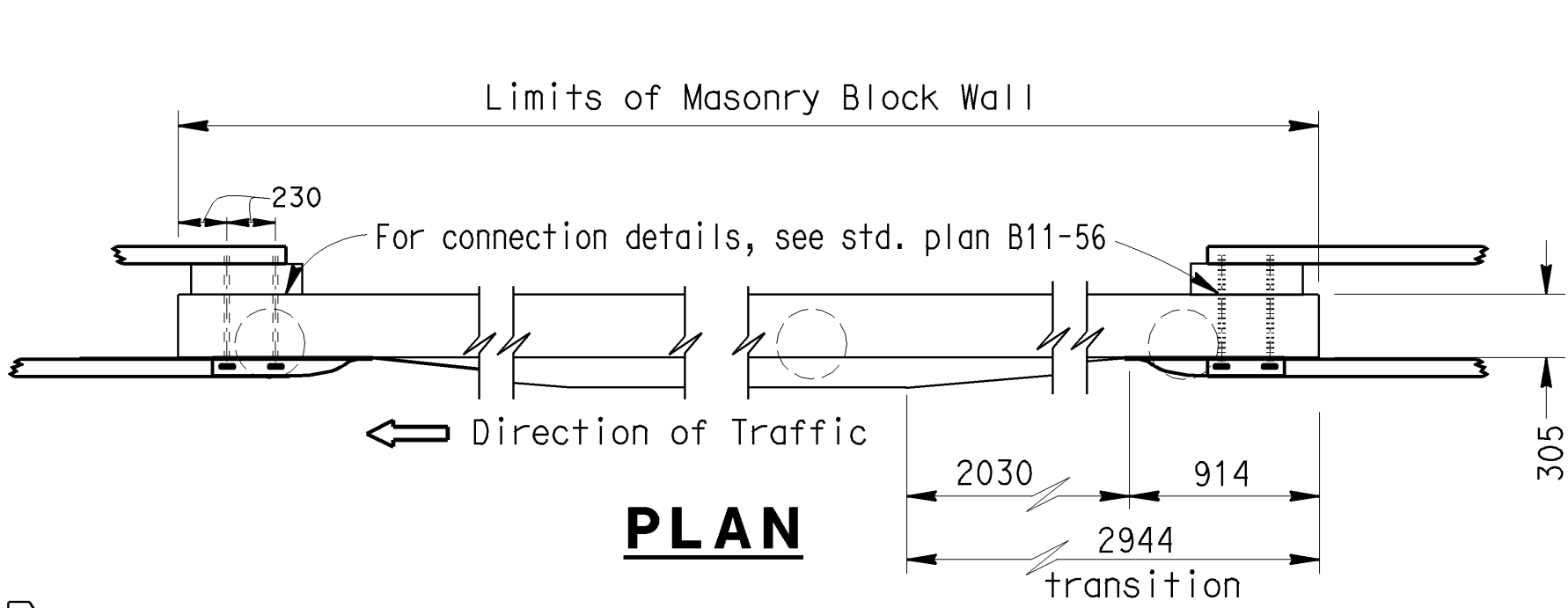


| | | | | | |
|--|--------|-------|------------------------------|-----------|--------------|
| DIST. | COUNTY | ROUTE | KILOMETER POST TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
| | | | | | |
| REGISTERED ENGINEER - CIVIL | | | | | |
| PLANS APPROVAL DATE | | | | | |
| The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet. | | | | | |



CLEARANCE DETAIL

DESIGN NOTES

DESIGN

Uniform Building Code, 1997 Edition and the Bridge Design Specifications.

DESIGN WIND LOAD

1293 Pa

DESIGN SEISMIC LOAD

0.57 Dead load

CONCRETE MASONRY

REINFORCED CONCRETE

f'c = 22.408 Mpa
fy = 413.688 MPa

REGULAR STRENGTH

f'm = 10.34 MPa
fb = 3.41 MPa
fs = 165.5 MPa
n = 25.8

HIGH STRENGTH

f'm = 13.79 MPa
fb = 4.55 MPa
fs = 165.5 MPa
n = 19.3

LOAD FACTORS AND LOAD COMBINATIONS

Working Stress Design (WSD) Percentage of unit stress

Group 1: D + E + SC 100%
Group 2: D + W + SC + E 100%
Group 3: D + 0.71 EQD + E 100%

Where:

D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load

Load Factor Design (LFD)

Group A: BD + 1.7 E + 1.7 SC
Group B: BD + 1.7 E + 1.3 W
Group C: BD + 1.3 E + 1.0 EQE
Group D: BD + 1.3 E + 1.0 EQD
Group E: BD + 1.1 E + 0.85 (EQE + EQD)

Where : B = 0.9 or 1.2, whichever controls in design
D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load
EQE = Seismic earth load

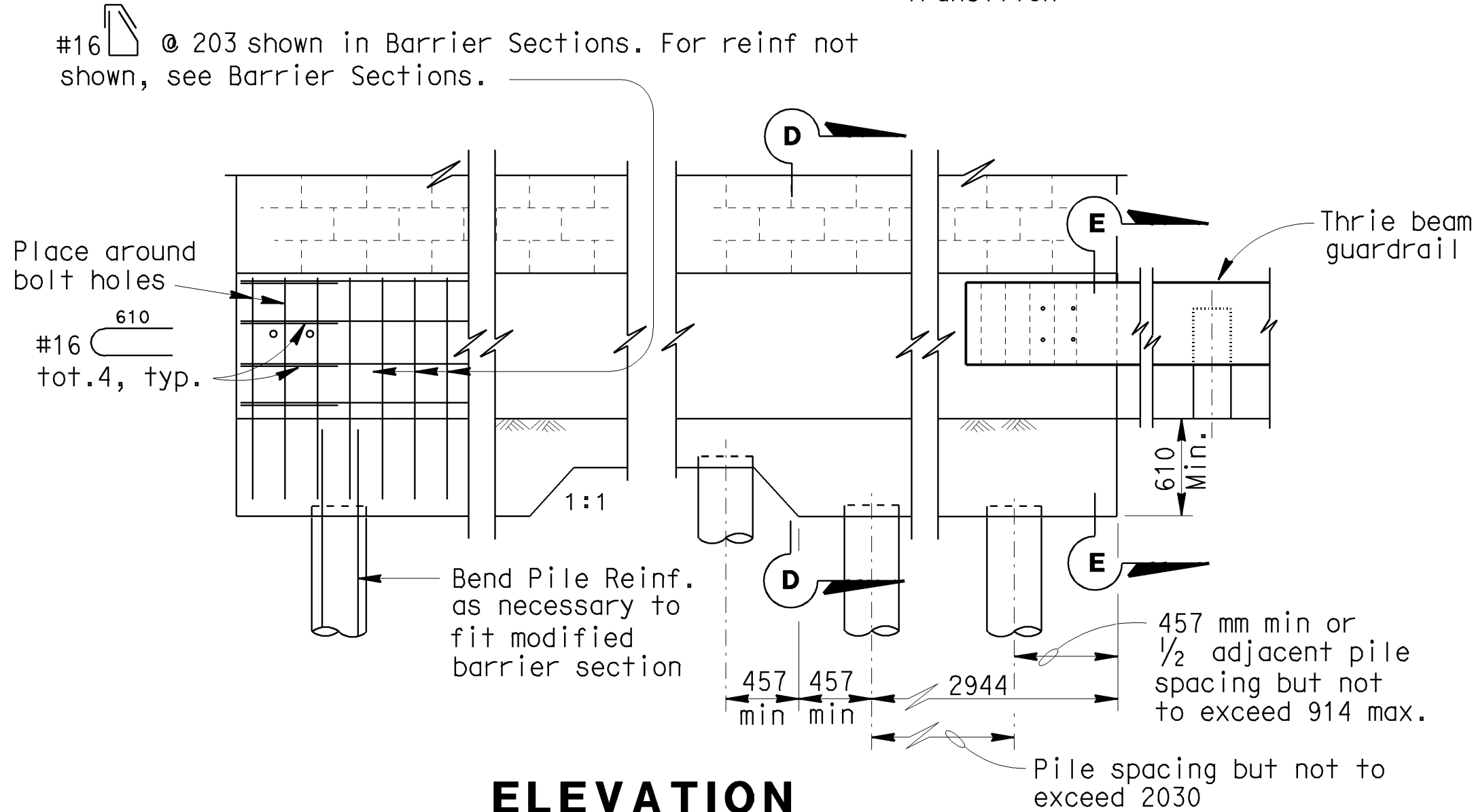
STRENGTH REDUCTION FACTORS, Ø

Reinforced concrete:

For flexure Ø = 0.90
For shear Ø = 0.85

Concrete masonry:

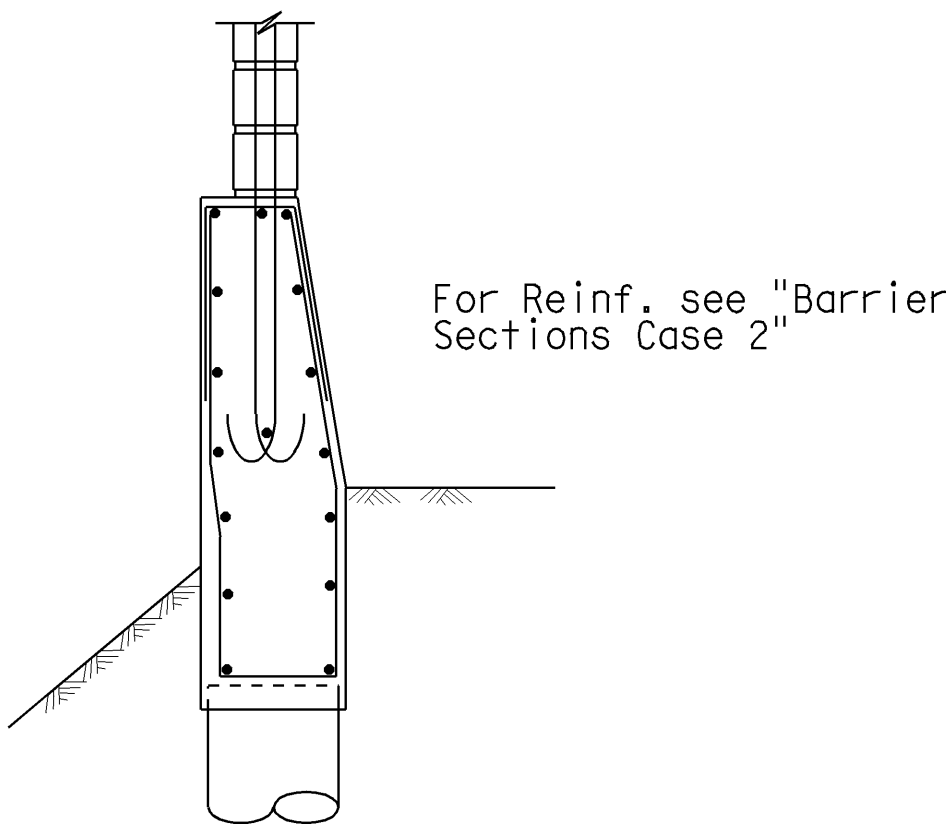
For flexure Ø = 0.80
For shear Ø = 0.60



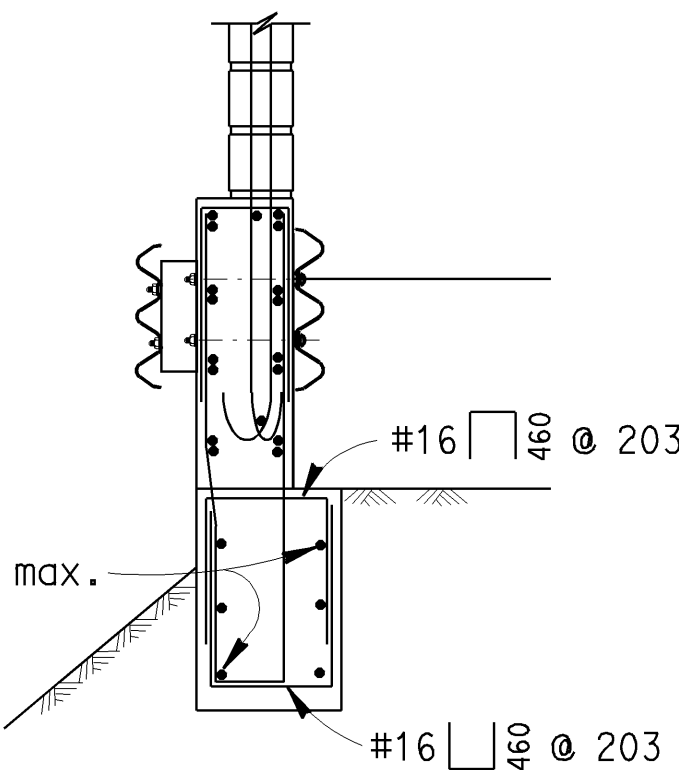
ELEVATION

METAL BEAM GUARDRAIL ANCHORAGE

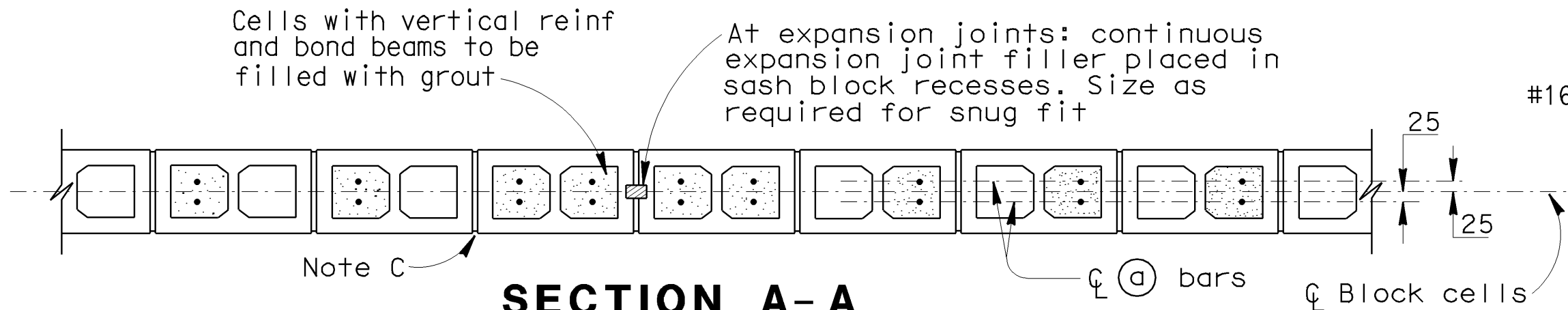
For details not shown, see std. plan B11-56.



SECTION D-D



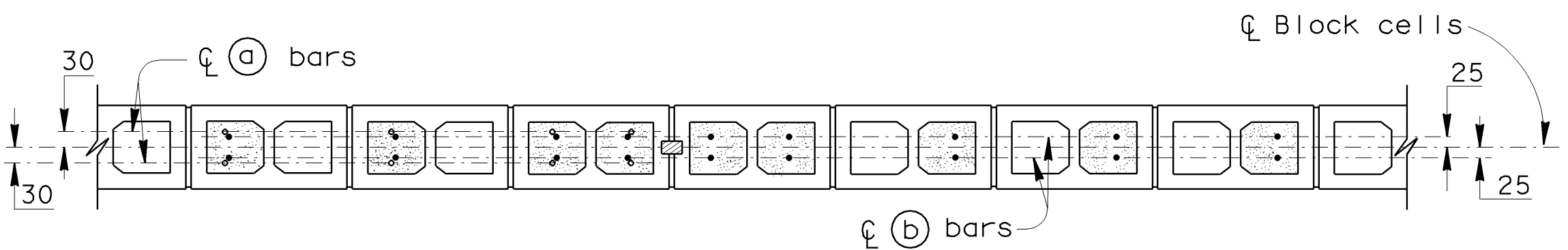
SECTION E-E



SECTION A-A

For details not shown, see other details

H=1930 THRU H=3150



SECTION A-A

SECTION B-B

For details not shown, see other details

H=3759 THRU H=4978

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

- Note 1: Concrete masonry designed by the Working Stress Method. Barriers and piles designed for flexure and shear (Internal stability) by the Strength Design Method.
- Note 2: Case 1 - Level ground on both sides of the barrier: Pile embedment lengths (External stability) were determined using the Sheet Pile Procedure with Service Loads and a Factor of Safety for overturning of 2.0. Allowable net lateral soil pressures (Q) of 38.2 kN/m²/m (243 psf/ft), 62.1 kN/m²/m (395 psf/ft) and 101 kN/m²/m (643 psf/ft) were considered based on a Log Spiral Analysis using 67% of the ultimate passive pressure. These values correspond with angles of shearing resistance (Ø) of 25°, 30° and 35° respectively and unit weights of soil (γ) of 17.27 kN/m³ (110 pcf), 18.05 kN/m³ (115 pcf) and 18.84 kN/m³ (120 pcf) respectively. An Isolation Factor of 3.0 was used on both sides.
- Note 3: Case 2 - Level ground on traffic side of the barrier and sloping ground on the opposite side: Pile embedment lengths (External stability) were determined using the Sheet Pile Procedure with Service Loads and a Factor of Safety for overturning of 2.0. Allowable net lateral soil pressures for the sloping side of the wall (Q) of 10.5 kN/m²/m (67 psf/ft), and 21.08 kN/m²/m (134 psf/ft) were considered based on a Log Spiral Analysis using 67% of the ultimate passive pressure. These values correspond with angles of shearing resistance (Ø) of 30° and 35° respectively and unit weights of soil (γ), 18.05 kN/m³ (115 pcf) and 18.84 kN/m³ (120 pcf) respectively. Isolation Factors were 3.0 for the level side and 2.0 for the sloping side.

| | | | | | | | | |
|---|---------------------------|------------------------|----------------------------------|---|---|----------------|---|--|
| STANDARD DRAWING | | | | | BRIDGE NO. | | SOUNDWALL - MASONRY BLOCK ON TYPE 736S/SV BARRIER | |
| RELEASE DATE 9/8/03 | DESIGN BY D. DUNRUD | CHECKED W.C. WALKER | RELEASED BY W.C. WALKER | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | | KILOMETER POST | DETAILS NO. 2 | |
| FILE NO. xs15-110-2 | SUBMITTED BY D. DUNRUD | DRAWING DATE 9/00 | OFFICE CHIEF Roberto L. Valle | DIVISION OF ENGINEERING SERVICES | | | | |
| DS OSD 2147A (METRIC) (REV. X/XX/XX) | | | | | DISREGARD PRINTS BEARING EARLIER REVISION DATES | | REVISION DATES (PRELIMINARY STAGE ONLY) | |
| ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS | | | | | CU EA | | SHEET OF | |

USERNAME => jsanchez

xs15-110-2.dgn